

IN THE CLAIMS:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (currently amended) A radio antenna which is physically dimensioned to be less than ten percent of the intended operating wavelength, and in

which—wherein the power to be transmitted is connected from a low impedance feeder via an inductive component, or a parallel set of inductive components, connected to a low impedance tap on a radio-frequency resonant autotransformer which has a capacitive component connected to be parallel resonance resonant, wherein the [[first]] inductive component or components being is used to stimulate the principal in-phase radio-frequency magnetic field and wherein the capacitive component [[being]] is used to stimulate the principal in-phase radio frequency electric field, and the said two fields being placed so as to cross stress the space surrounding the antenna in an interaction zone, the resonant circuit having the electric field in phase with the potential on the capacitive stimulator but in [[the]] a [[said]] resonant circuit the current fed to the resonant transformer autotransformer is [[being]] directed through parallel parts of a toroidal coil ~~coal~~ in order to stimulate the necessary in phase magnetic field thus resolving the criterion of in phase electrical alternation of electric and magnetic fields.

17. (currently amended) A radio antenna according to Claim 16 which has an electric field stimulator which is a hollow cylinder with or without a sliding telescoping section within, held vertically above a toroidal

magnetic stimulator mounted horizontally above a non-magnetic metal plane with its end connections connected to the said E-plate and the plane with ~~or without~~ a trimmer capacitor connected in parallel across [[the]] a resonator coil.

18. (currently amended) A radio antenna according to Claim 16 with [[the]] an electric field stimulator constructed as a hollow cone which is able to be moved so as to adjust its electrical capacity to ~~the said~~ a terminating plane.

19. (currently amended) A radio antenna according to Claim 17 with an electric field stimulator constructed as a hollow cone electrically connected to a hollow cylinder ~~either~~ fixed to the [[said]] cone or ~~in sliding contact with same.~~

20. (currently amended) A radio antenna according to Claim 18 with the electric field stimulator constructed as a hollow cone electrically connected to a hollow cylinder ~~either~~ fixed to the [[said]] cone or ~~in sliding contact with same.~~

21. (previously presented) A radio antenna according to Claim 17 in

which either the electric field stimulator or the non-magnetic plane are shaped to apply the said field in a manner to produce non uniformly directed radiation.

22. (currently amended) A radio antenna according to Claim 18 in which either the electric field stimulator or [[the]] a non-magnetic plane are shaped to apply the said field in a manner to produce non uniformly directed radiation.

23. (previously presented) A radio antenna according to Claim 16 in which the electric field is stimulated by a loop conductor and the magnetic field is stimulated by a second loop conductor located in close proximity.

24. (previously presented) A radio antenna according to Claim 21 in which the conductors are firstly the outer screen and secondly the inner conductor of a loop of coaxial cable.

25. (currently amended) A radio antenna according to Claim [[21]] 23 in which more than one turn is used for either ~~or both~~ of the loop conductors said conductor loops.

26. (previously presented) A radio antenna according to Claim 16 used in conjunction with a conducting sheet or mesh held in a position to obstruct radiation in an unwanted direction or to improve radiation by reflection in a preferred direction, or directions.

27. (previously presented) A radio antenna according to Claim 16 which has a remotely controlled trimmer capacitor in order to vary the frequency of operation from a distance.

28. (previously presented) A radio antenna which is composed of a two or more individual antennas according to Claim 16 which are arranged to interact so as to produce a shaped pattern of directivity as in a phased array.

29. (previously presented) A radio antenna according to Claim 16 being located near other metal rods or arrays of such conductors in order to parasitically affect the radiation in directivity as in the previously known science of parasitic arrays.

30. (previously presented) A radio antenna according to Claim 16 located at the focus of a parabolic reflector whether fixed or steerable for enhancement of transmission or reception in a desired direction or directions.

31. (previously presented) A radio transmitting or receiving antenna which is physically compact being typically no more than three percent of a wavelength in any dimension the antenna comprising two electrical conducting surfaces across which radio frequency electric field lines each carrying half the power are arranged to cross radio frequency magnetic field lines carrying the remaining half power to thereby feeds through a set of coils wired in parallel and lying in a toroidal shape to create a circular RF magnetic field and then passes to a low impedance tap on a resonant autotransformer used to connect a high RF voltage and create a curving electric field across the interaction zone in the volume between the two electrical conducting surfaces.

32. (new) A radio antenna according to Claim 18 with the electric field stimulator constructed as a hollow cone electrically connected to a hollow cylinder in sliding contact with the cone..

33. (new) A radio antenna according to Claim 17 with an electric field stimulator constructed as a hollow cone electrically connected to a hollow cylinder in siding contact with the cone..

34. (new) A radio antenna according to Claim [21]] 23 in which more than one turn is used for both of the loop conductors.

35. (new) A radio transmitting or receiving antenna comprising two electrical conducting surfaces across which radio frequency electric field lines each carrying half the power are arranged to cross radio frequency magnetic field lines carrying the remaining half power to thereby feeds through a set of coils wired in parallel and lying in a toroidal shape to create a circular RF magnetic field and then passes to a low impedance tap on a resonant autotransformer.